

SHIP 16/01

Dart Aerospace Ltd.

Date: Monday, 1/7/2008 11:35:17 AM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services

Drawing Name : SHORT STEP ASSEMBLY

Job Number : 36602 -1

Estimate Number : 11999

P.O. Number :

Part Number : D350591122

This Issue : 1/7/2008

S.O. No. :

Drawing Number : D2351 UNDER REVIEW

Prsht Rev. : NC

Project Number : N/A

First Issue : 1/1

Type : LARGE FAB ASSY

Drawing Revision : E

Previous Run : 36239

Material :

Due Date : 1/16/2008

Qty:

Um:

Each

Written By :

Checked & Approved By :

Comment : Est Rev: E 02.10.21 Re-format; Incorporated D2351-041 IPP K
J/RPOSITIVE
RECALL

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-122 CH0003 CHG-004 01-03-27 08.01.16

2.0

D2244116

Step Extrusion



Comment: Qty.: 0.5000 Each(s)/Unit Total : 2.5000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-116 Extrusion B333733

SAD 08/01/09

3.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

SAD 08/01/09 8

4.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/10 (45)

5.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend as per dwg

FZ 8-1-10

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06/01/23	# 9.0	Split w6 at step 9.0 Per 2 parts	6	06/01/23	(12)	06/01/23	06/01/23

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number: 36602

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/10 (8)

7.0

D28502

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2850-2 End Bracket 329849

08.01.14 8

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod 1105844

3-Do not Grind Flush

08.01.14 8

08.01.14 8

SAD 08.01.15 (8)

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

08-01-15 (8)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/15 (6)

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SAD 08/01/17 (6)

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/01/20 (6)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36602

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2582

Step Leg Assy

36710

SAD 08.01.20

POSITIVE RECALL

EFFECTIVE 08.01.07 AUTH PH

RELEASED PH DATE 08.01.20

ENSURE D2582 MFG. I.A.W Rev B

14.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total : 80.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

4164715

SAD 08.01.20 6

15.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

SAD 08.01.20 6

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

PH 08.01.22 6

17.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

335887

PH 08.01.22 6

18.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod M105058

2-Grind end plate flush.

u.m 08.01.23

6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36602

Part Number: D350591122

Job Number:



#:

Machine Or Operation:

Description :

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 08-01-23

20.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08-01-23 (6)

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

M-L

08/01/23 (6x)

22.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M 106379

M-L 08/01/24 (6x)

23.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch: M 106332

FD 08/01/24 (6)

24.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/01/25 (6)

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

26.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing Kit Qty Part Number Description Batch

1 D2230-1 Mounting Lug

1333200

08

08/01/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Job Number: 36602

Part Number: D350591122

Job Number:



Seq. #: Machine Or Operation: Description :

27.0 D22303 Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-3 Mounting Lug B 35800

28.0 D2856400 Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 3.0000 f(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2856-400 7.20" Abrasion Strip 3890

29.0 AN337A Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 AN3-37A Bolt M104016

30.0 AN413A Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 AN4-13a Bolt M106513

31.0 AN960JD10 Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

4 AN960JD10 Washer M105792 8X M106167 18X

32.0 AN960JD416 Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 30.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

6 AN960JD416 Washer M105906

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Job Number: 36602

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

33.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 MS21042L3 Nut (or -3) M105558

34.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 MS21042L4 Nut (or -4) M105054

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-122

Location:

PPP Rev:

Rev D

37.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 08.06.25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 36602

RELEASED
05.11.28

UNDER REVIEW

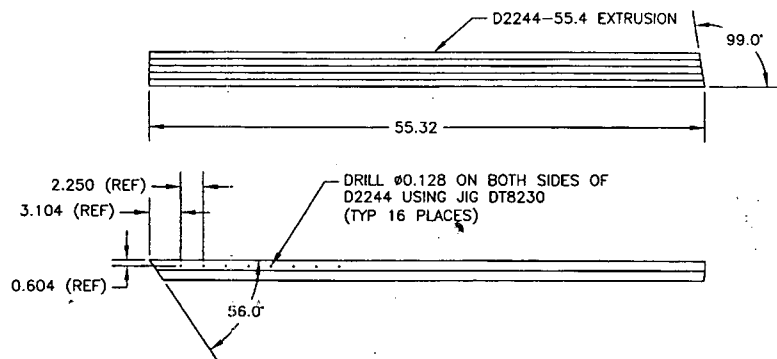
PH
07.01.07

07.11.24
PER NO. # 263

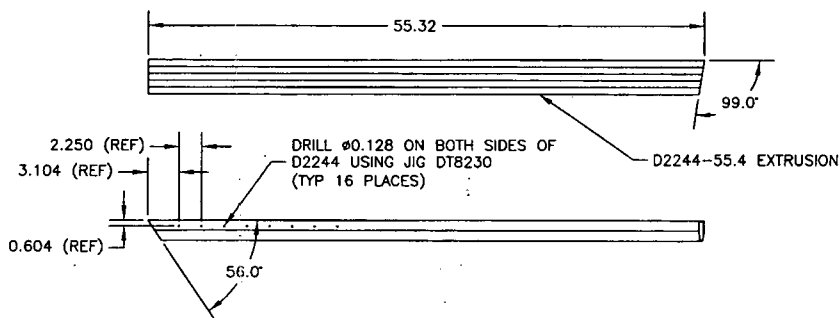
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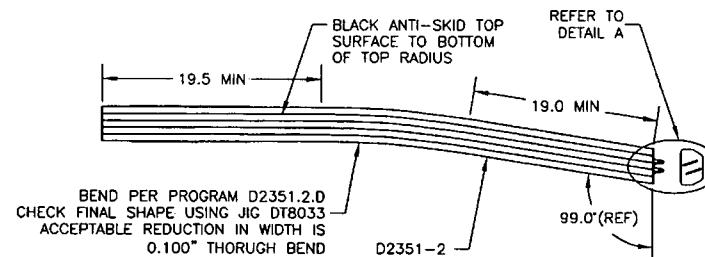
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



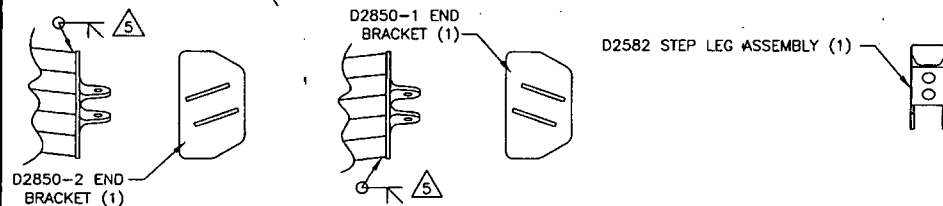
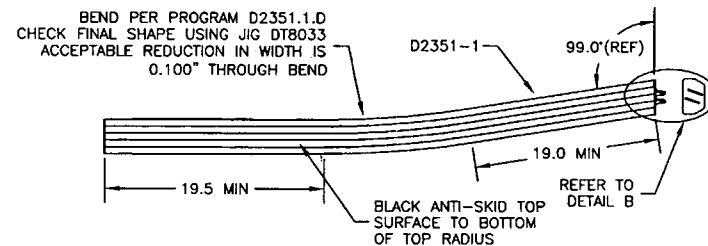
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4

DETAIL B
SCALE: 1:4

GENERAL NOTES

- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

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DESIGN	DRAWN BY	DART	DART AEROSPACE LTD.
KE	PH		WARRIMUR, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. E
		D2351	SHEET 2 OF 2
DATE		TITLE	SCALE
05.11.14		HIGH FLOAT STEP ASSEMBLY	1:12

RELEASED
05.11.28

UNDER REVIEW

NO. 30002
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY
SHOULD BE
RETURNED TO
ENGINEERING